

REMARKS

I. Status of the Claims

The subject application is the U.S. national stage of PCT Application No. PCT/EP00/08778. The claims of the application are an English translation of the claims (as amended during PCT processing) of PCT/EP00/08778.

The foregoing amendments put the claims in proper and more traditional format for prosecution in the U.S. Patent Office. Claims that depended from multiple claims have been amended to depend from only a single claim. New claims 17-31 have been added to claim the subject matter originally claimed in claims which depended from multiple claims. No new matter has been incorporated by these amendments.

Applicants respectfully request entry of the foregoing amendments and examination of the application.

Respectfully submitted,
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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Attorney Docket No. 005430.00002)

Applicant: Rusing et al.

Paper No:

U.S. National Phase Application of
PCT/EP00/08778

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Title: Structure of the Delta-6-Desaturase Gene

VERSION SHOWING CHANGES MADE

Claim 1. (Amended) A nucleic acid encoding *Tetrahymena* delta-6-desaturase ~~having an amino acid sequence as depicted in SEQ ID NO.: 2, or a functional variant thereof having at least 70% sequence identity with SEQ ID NO.: 2, and parts thereof containing~~ comprising at least 8 nucleotides, ~~with from~~ from SEQ ID NO.: 1 being part of the claim.

Claim 3. (Amended) A nucleic acid as claimed in claim 1 ~~or 2~~, which is obtained from *Tetrahymena thermophila*.

Claim 4. (Amended) A nucleic acid as claimed in claims 1-3 which is ~~a DNA or RNA, preferably a double-stranded DNA.~~

Claim 5. (Amended) A nucleic acid as claimed in ~~one of~~ claims 1 ~~to~~ 4, which is a DNA having a nucleic acid sequence as depicted in SEQ ID. NO.: 1 from position 33 to position 1091.

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Claim 6. (Amended) A nucleic acid as claimed in ~~one of claims 1 to 5, which contains~~
comprising one or more noncoding sequences.

Claim 7. (Amended) An isolated nucleic acid ~~as claimed in one of claim 1 to 6 as~~
~~depicted in SEQ ID NO.: 3 or a functional variant thereof, and parts thereof containing~~
comprising at least 8 nucleotides ~~with~~ from SEQ ID NO.: 3 ~~being part of the claim.~~

Claim 8. (Amended) A ~~nucleic acid as claimed in one of claims 1-7, which is contained~~
~~in a vector, preferably an expression vector~~ comprising a nucleic acid comprising SEQ
ID NO.: 1 or functional variants thereof having at least 70% sequence identity with SEQ
ID NO.: 1.

Claim 9. (Amended) ~~An~~The ~~expression vector as claimed in of~~ claim 8, wherein the
nucleic acid is functionally combined with a constitutive ~~and/or inducible~~ promoter and
~~optionally with a termination signal.~~

Claim 10. (Amended) A process for preparing a nucleic acid ~~as claimed in one of claim~~
~~1-7, which comprises~~ comprising SEQ ID NO.: 1 or functional variants thereof having at
least 70% sequence identity with SEQ ID NO.: 1, the process comprising chemically
synthesizing the nucleic acid comprising SEQ ID NO.: 1 or functional variants thereof
having at least 70% sequence identity with SEQ ID NO.: 1 ~~or isolating it from a gene~~
~~library using a probe.~~

Claim 11. (Amended) A polypeptide ~~having~~comprising an amino acid sequence as
~~depicted in~~ comprising at least 6 amino acids from SEQ ID NO.: 2 ~~or a functional variant~~
~~thereof, and parts thereof containing at least 6 amino acids.~~

Claim 12. (Amended) A process for preparing a polypeptide ~~as claimed in claim 11~~
comprising SEQ ID NO.: 2 or functional variants thereof having at least 70% sequence
identity with SEQ ID NO.: 2, which comprises the process comprising expressing a
nucleic acid in one of claims 1-7 comprising SEQ ID NO.: 1 or functional variants

Claim 15. (Amended) ~~A~~The transgenic organism as claimed in of claim 11 14 in which is ~~selected from the transgenic organism is a plants or a ciliates.~~